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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Marilia Cascalho et al.  
Serial No. : 10/591,212  
Filed : August 31, 2006  
Title : METHODS FOR ALTERING T CELL DIVERSITY

Art Unit : 1626  
Examiner : Unknown  
Conf. No. : 6644

**Mail Stop Amendment**

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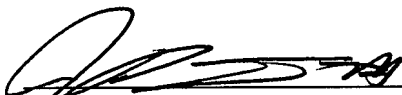
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1. Information Disclosure Statement (1 page);
2. Form PTO-1449 (5 pages);
3. Copies of Cited References (83 references); and
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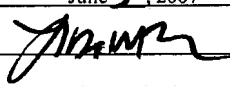
  
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INFORMATION DISCLOSURE STATEMENT

Applicants request consideration of the references listed on the attached PTO-1449 form. Under 37 C.F.R. § 1.98 (a)(2)(ii), only copies of foreign patent documents and/or non-patent literature are enclosed. Copies of any listed U.S. patents or U.S. patent application publications can be provided upon request.

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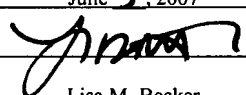
  
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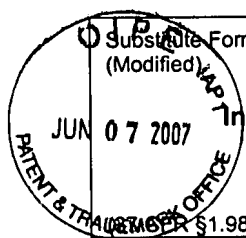
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 Substitute Form PTO-1449  
 (Modified)

 U.S. Department of Commerce  
 Patent and Trademark Office

 Attorney's Docket No.  
 07039-517US1

 Application No.  
 10/591,212

**Information Disclosure Statement  
 by Applicant**

(Use several sheets if necessary)

 Applicant  
 Marilia Cascalho et al.

 Filing Date  
 August 31, 2006

 Group Art Unit  
 1626

USMSP § 1.98(b)

**U.S. Patent Documents**

Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	1.	4,165,370	08/21/79	Coval			
	2.	4,465,670	08/14/84	Sugisaki et al.			
	3.	4,642,334	02/10/87	Moore et al.			
	4.	4,719,290	01/12/88	Curry et al.			
	5.	5,164,487	11/17/92	Kothe et al.			
	6.	5,562,902	10/08/96	Shoenfeld et al.			
	7.	6,231,856	05/15/01	Williams			
	8.	6,252,055	06/26/01	Relton			
	9.	6,281,336	08/28/01	Laursen et al.			
	10.	2007/0042349	02/22/07	Olge et al.			
	11.	2003/0082156	05/01/03	Reinherz et al.			
	12.	2004/0005298	01/08/04	Bonyhadi et al.			

**Foreign Patent Documents or Published Foreign Patent Applications**

Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	13.	WO 95/32735	12/07/95	WIPO				

**Other Documents (include Author, Title, Date, and Place of Publication)**

Examiner Initial	Desig. ID	Document
	14.	Akashi et al., "B Lymphopoiesis in the Thymus," <u>J. Immunol.</u> , 2000, 164:5221-5226
	15.	Antonelli et al., "Autoimmune polyendocrine syndrome. Treatment with intravenous immunoglobulins," <u>Clin. Ter.</u> , 1992, 141(9 Pt 2):43-48 (w/English summary)
	16.	Arstila et al., "A Direct Estimate of the Human $\alpha\beta$ T Cell Receptor Diversity," <u>Science</u> , 1999, 286:958-961
	17.	Barton and Rudensky, "Requirement for Diverse, Low-Abundance Peptides in Positive Selection of T Cells," <u>Science</u> , 1999, 283:67-70
	18.	Benoist and Mathis, "Positive Selection of the T Cell Repertoire: Where and When Does It Occur?" <u>Cell</u> , 1989, 58:1027-1033
	19.	Bielory, "Home Health Care: Intravenous Gamma Globulin," <u>N. J. Med.</u> , 1992, 89(1):56-58
	20.	Bix and Raulet, "Inefficient positive selection of T cells directed by haematopoietic cells," <u>Nature</u> , 1992, 359:330-333

Examiner Signature

Date Considered

EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Substitute Form PTO-1449 (Modified)	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 07039-517US1	Application No. 10/591,212
<b>Information Disclosure Statement by Applicant</b> (Use several sheets if necessary)  (37 CFR §1.98(b))		Applicant Marilia Cascalho et al.	
		Filing Date August 31, 2006	Group Art Unit 1626

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	21.	Busser et al., "Activation of diverse repertoires of autoreactive T cells enhances the loss of anti-dsDNA B cell tolerance," <u>J. Clin. Invest.</u> , 2003, 112(9):1361-1372
	22.	Cascalho et al., "A Quasi-Monoclonal Mouse," <u>Science</u> , 1996, 272:1649-1652
	23.	Cascalho et al., "V <sub>H</sub> Gene Replacement in Hyperselected B Cells of the Quasimonoclonal Mouse," <u>J. Immunol.</u> , 1997, 159:5795-5801
	24.	Casrouge et al., "Size Estimate of the $\alpha\beta$ TCR Repertoire of Naive Mouse Splenocytes," <u>J. Immunol.</u> , 2000, 164:5782-5787
	25.	Chen et al., "Cryptic T cell epitopes in polymorphic immunoglobulin regions: evidence for positive repertoire selection during fetal development," <u>Eur. J. Immunol.</u> , 1992, 22:3077-3083
	26.	Chen et al., "Immunoglobulin gene rearrangement in B cell deficient mice generated by targeted deletion of the J <sub>H</sub> locus," <u>Int. Immunol.</u> , 1993, 5(6):647-656
	27.	Coligan et al. (eds.), "Fragmentation of Immunoglobulin G," <u>Current Protocols in Immunology</u> , Wiley Interscience, 1991, Units 2.8 and 2.10
	28.	Constant, "B Lymphocytes as Antigen-Presenting Cells for CD4 <sup>+</sup> T Cell Priming In Vivo," <u>J. Immunol.</u> , 1999, 162:5695-5703
	29.	Coutinho et al., "A functional idiotypic network of T helper cells and antibodies, limited to the compartment of "naturally" activated lymphocytes in normal mice," <u>Eur. J. Immunol.</u> , 1987, 17:821-825
	30.	Davis et al., "A Murine T Cell Receptor Gene Complex: Isolation, Structure and Rearrangement," <u>Immunol. Rev.</u> , 1984, 81:235-258
	31.	Delassus et al., "PCR-based analysis of the murine immunoglobulin heavy-chain repertoire," <u>J. Immunol. Meth.</u> , 1995, 184:219-229
	32.	Farr et al., "Organization of thymic medullary epithelial heterogeneity: implications for mechanisms of epithelial differentiation," <u>Immunol. Rev.</u> , 2002, 189:20-27
	33.	Fireman and Friday, "Asthma. A Role for IVIG Therapy?" <u>IVIG Therapy Today</u> , 1992, 10:135-142
	34.	Freitas et al., "Selection of antibody repertoires: transfer of mature T lymphocytes modifies V <sub>H</sub> gene family usage in the actual and available B cell repertoires of athymic mice," <u>Int. Immunol.</u> , 1989, 1(4):398-408
	35.	Fukunishi et al., "Prediction of non-responsiveness to intravenous high-dose gamma-globulin therapy in patients with Kawasaki disease at onset," <u>J. Pediatr.</u> , 2000, 137(2):149-152
	36.	Gill et al., "Generation of a complete thymic microenvironment by MTS24 <sup>+</sup> thymic epithelial cells," <u>Nat. Immunol.</u> , 2002, 3(7):635-642
	37.	Goldrath and Bevan, "Selecting and maintaining a diverse T-cell repertoire," <u>Nature</u> , 1999, 402:255-262
	38.	Gürer et al., "Intravenous $\gamma$ -Globulin Treatment in a Patient With Subacute Sclerosing Panencephalitis," <u>Pediatr. Neurol.</u> , 1996, 14(1):72-74
	39.	Hasan et al., "Incomplete block of B cell development and immunoglobulin production in mice carrying the $\mu$ MT mutation on the BALB/c background," <u>Eur. J. Immunol.</u> , 2002, 32:3463-3471
	40.	Hugo et al., "Fibroblasts can induce thymocyte positive selection <i>in vivo</i> ," <u>Proc. Natl. Acad. Sci. USA</u> , 1993, 90:10335-10339
	41.	Inaba et al., "The function of Ia <sup>+</sup> dendritic cells and Ia <sup>+</sup> dendritic cell precursors in thymocyte mitogenesis to lectin and lectin plus interleukin," <u>J. Exp. Med.</u> , 1988, 167:149-162

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Other Documents (include Author, Title, Date, and Place of Publication)		
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	42.	James, "Gamma globulin to prevent infections?" <u>Aids Treatment News</u> , 1992, No. 152, 17 pages
	43.	João et al., "B Cell-Dependent TCR Diversification," <u>J. Immunol.</u> , 2004, 172:4709-4716
	44.	Jordan, "Treatment of Systemic and Renal-Limited Vasculitic Disorders with Pooled Human Intravenous Immune gGobulin," <u>J. Clin. Immunol.</u> , 1995, 15(6Suppl.):76S-85S
	45.	Jurlow et al., "Immune modulating effects of gamma globulin in a patient with an overlapping syndrome," <u>Rev. Méd. Chile</u> , 1998, 126(9):1108-1111
	46.	Keshavarzi et al., "The Possibility of B-Cell-Dependent T-Cell Development," <u>Scand. J. Immunol.</u> , 2003, 57:446-452
	47.	Kisielow et al., "Positive selection of antigen-specific T cells in thymus by restricting MHC molecules," <u>Nature</u> , 1988, 335:730-733
	48.	Kitamura et al., "A B cell-deficient mouse by targeted disruption of the membrane exon of the immunoglobulin $\mu$ chain gene," <u>Nature</u> , 1991, 350:423-426
	49.	Kleindienst et al., "Functional comparison of thymic B cells and dendritic cells in vivo," <u>Blood</u> , 2000, 95(8):2610-2616
	50.	Kluin-Nelemans et al., "Persistent Clonal Excess and Skewed T-Cell Repertoire in T Cells From Patients with Hairy Cell Leukemia," <u>Blood</u> , 1996, 87(9):3795-3802
	51.	Kluin-Nelemans et al., "Correction of Abnormal T-Cell Receptor Repertoire During Interferon- $\alpha$ Therapy in Patients With Hairy Cell Leukemia," <u>Blood</u> , 1998, 91(11):4224-4231
	52.	Langerak et al., "Molecular and flow cytometric analysis of the V $\beta$ repertoire for clonality assessment in mature TCR $\alpha\beta$ T-cell proliferations," <u>Blood</u> , 2001, 98(1):165-173
	53.	Lanzavecchia, "Antigen-specific interaction between T and B cells," <u>Nature</u> , 1985, 314:537-539
	54.	Lenarsky, "Mechanisms in Immune Recovery After Bone Marrow Transplantation. Management of Posttransplant Immune Deficiency," <u>Am. J. Pediatr. Hematol./Oncol.</u> , 1993, 15(1):49-55
	55.	Li et al., "The Regulated Expression of B Lineage Associated Genes during B Cell Differentiation in Bone Marrow and Fetal Liver," <u>J. Exp. Med.</u> , 1993, 178:951-960
	56.	Lim et al., "Combination of MHC-peptide multimer-based T cell sorting with the Immunoscope permits sensitive ex vivo quantitation and follow-up of human CD8 <sup>+</sup> T cell immune responses," <u>J. Immunol. Meth.</u> , 2002, 261:177-194
	57.	Litzman, "Current Therapeutical Possibilities of Gammaglobulins," <u>Cas. Lek. ces.</u> , 1991, 130(18-19):556-560 (w/English summary)
	58.	Macpherson et al., "IgA production without $\mu$ or $\delta$ chain expression in developing B cells," <u>Nat. Immunol.</u> , 2001, 2(7):625-631
	59.	Marcos et al., "B cell participation in the recursive selection of T cell repertoires," <u>Eur. J. Immunol.</u> , 1988, 18:1015-1020
	60.	Markowitz et al., "Class II-positive hematopoietic cells cannot mediate positive selection of CD4 <sup>+</sup> T lymphocytes in class II-deficient mice," <u>Proc. Natl. Acad. Sci. USA</u> , 1993, 90:2779-2783
	61.	Marseglia et al., "Sustained remission of immune-mediated red cell aplasia in a child after intravenous administration of gamma globulin," <u>J. Pediatr.</u> , 1994, 125(3):403-405
	62.	Martinez et al., "Maternal transmission of idiotypic network interactions selecting available T cell repertoires," <u>Eur. J. Immunol.</u> , 1986, 16(11):1445-1447
	63.	Martinic et al., "Efficient T cell repertoire selection in tetraparental chimeric mice independent of thymic epithelial MHC," <u>Proc. Natl. Acad. Sci. USA</u> , 2003, 100(4):1861-1866
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	64.	Mazda et al., "Requirement of Dendritic Cells and B Cells in the Clonal Deletion of Mls-reactive T Cells in the Thymus," <u>J. Exp. Med.</u> , 1991, 173:539-547
	65.	Mehta et al., "Intravenous immunoglobulin therapy of immune thrombocytopenia," <u>J. Assoc. Physicians India</u> , 1992, 40(5):340-342
	66.	Mori et al., "Presence of B Cell Progenitors in the Thymus," <u>J. Immunol.</u> , 1997, 158:4193-4199
	67.	Murata et al., "T Cell Receptor Repertoire of T Cells in the Kidneys of Patients With Lupus Nephritis," <u>Arthritis Rheum.</u> , 2002, 46(8):2141-2147
	68.	Ogle et al., "Direct measurement of lymphocyte receptor diversity," <u>Nucl. Acids Res.</u> , 2003, 31(22):e139
	69.	Ott et al., "Intravenous $\gamma$ -Globulin: Clinical Applications in Pediatric Care," <u>J. Pediatr. Nurs.</u> , 1990, 5(5):307-315
	70.	Pannetier et al., "The sizes of the CDR3 hypervariable regions of the murine T-cell receptor $\beta$ chains vary as a function of the recombined germ-line segments," <u>Proc. Natl. Acad. Sci. USA</u> , 1993, 90:4319-4323
	71.	Pannetier et al., "T-cell repertoire diversity and clonal expansions in normal and clinical samples," <u>Immunol. Today</u> , 1995, 16(4):176-181
	72.	Parke, "The Role of IVIG in the Management of Patients with Antiphospholipid Antibodies and Recurrent Pregnancy Losses," <u>IVIG Therapy Today</u> , 1992, 10:105-118
	73.	Pawlowski et al., "Positive selection of T lymphocytes on fibroblasts," <u>Nature</u> , 1993, 364:642-645
	74.	Ron and Sprent, "T Cell Priming in vivo: A major role for B cells in presenting antigen to T cells in lymph nodes," <u>J. Immunol.</u> , 1987, 138(9):2848-2856
	75.	Sant'Angelo et al., "The Imprint of Intrathymic Self-Peptides on the Mature T Cell Receptor Repertoire," <u>Immunity</u> , 1997, 7:517-524
	76.	Schwartz and Berger, "Intravenous $\gamma$ -Globulin Therapy in Bronchial Asthma," <u>Allergy Asthma Proc.</u> , 2002, 23:15-18
	77.	Sheehan and Brodeur, "Molecular cloning of the primary IgH repertoire: a quantitative analysis of $V_H$ gene usage in adult mice," <u>EMBO J.</u> , 1989, 8(8):2313-2320
	78.	Shoenfeld and Fishman, "Gamma-globulin inhibits tumor spread in mice," <u>Int. Immunol.</u> , 1999, 11(8):1247-1251
	79.	Sievert et al., "Graves' Disease and Autoimmune Factor VIII Deficiency," <u>Thyroid</u> , 1996, 6(3):245-247
	80.	Silverman et al., "Intravenous gamma globulin therapy in systemic juvenile rheumatoid arthritis," <u>Arthritis Rheum.</u> , 1990, 33(7):1015-1022
	81.	Surh and Sprent, "T-cell apoptosis detected <i>in situ</i> during positive and negative selection in the thymus," <u>Nature</u> , 1994, 372:100-103
	82.	Suhr et al., "Thymic Selection by a Single MHC/Peptide Ligand Produces a Semidiverse Repertoire of CD4 <sup>+</sup> T Cells," <u>Immunity</u> , 1997, 7:209-219
	83.	Sussman and Pruzanski, "Treatment of inflammatory myopathy with intravenous gamma globulin," <u>Curr. Opin. Rheumatol.</u> , 1995, 7(6):510-515
	84.	Szenberg and Warner, "Dissociation of Immunological Responsiveness in Fowls with a Hormonally Arrested Development of Lymphoid Tissues," <u>Nature</u> , 1962, 194:146-147
	85.	Sprent and Tough, "Lymphocyte Life-Span and Memory," <u>Science</u> , 1994, 265:1395-1400
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	86.	Tough and Sprent, "Measurement of T and B Cell Turnover with Bromodeoxyuridine," <u>Curr. Prot. Immunol.</u> , 1996, 18:4.7.1-4.7.6
	87.	van Genderen et al., "Effectiveness of High-Dose Intravenous Gamma Globulin Therapy in Acquired von Willebrand's Disease," <u>Vox Sang.</u> , 1994, 67(1):14-17
	88.	von Boehmer, "Developmental biology of T cells in T cell-receptor transgenic mice," <u>Annu. Rev. Immunol.</u> , 1990, 8:531-556
	89.	Wagner et al., "Perturbation of the T cell repertoire in rheumatoid arthritis," <u>Proc. Natl. Acad. Sci. USA</u> , 1998, 95:14447-14452
	90.	Wahn, "Immunomodulation by Intravenous Gammaglobulin?" <u>Immun. Infekt.</u> , 1984, 12(1):51-55 (w/English summary)
	91.	Weiss and Bogen, "B-lymphoma cells process and present their endogenous immunoglobulin to major histocompatibility complex-restricted T cells," <u>Proc. Natl. Acad. Sci. USA</u> , 1989, 86:282-286
	92.	Winder et al., "High-Dose Intravenous $\gamma$ -Globulins for Heparin-Induced Thrombocytopenia: A Prompt Response," <u>J. Clin. Immunol.</u> , 1998, 18(5):330-334
	93.	Zinkernagel et al., "Restriction specificities, alloreactivity, and allotolerance expressed by T cells from nude mice reconstituted with H-2-compatible or -incompatible thymus grafts," <u>J. Exp. Med.</u> , 1980, 151:376-399
	94.	Zinkernagel and Althage, "On the role of thymic epithelium vs. bone marrow-derived cells in repertoire selection of T cells," <u>Proc. Natl. Acad. Sci. USA</u> , 1999, 96:8092-8097
	95.	Zöller, "Intrathymic presentation of nominal antigen by B cells," <u>Int. Immunol.</u> , 1990, 2(5):427-434

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